

Sub A

WHAT IS CLAIMED IS:

1. A flat type fluorescent lamp comprising:
a first substrate and a second substrate;
a first electrode formed on the first substrate, the first electrode including a plurality of protrusions;
a phosphor layer formed on the second substrate;
a second electrode formed on the phosphor layer; and
supports selectively formed between the first substrate and the second substrate.
2. The flat type fluorescent lamp of claim 1, wherein the first electrode includes:
a first metal layer formed on the first substrate; and
the plurality of protrusions selectively formed on the first metal layer the protrusions being made of metal.
3. The flat type fluorescent lamp of claim 2, wherein the metal of the first metal layer and the metal protrusions is any one of Ag, Cr, Pt, and Cu.
4. The flat type fluorescent lamp of claim 2, wherein the metal protrusions have a trigonal pyramid shape, a cone shape, or a quadrangular pyramid shape.

5. The flat type fluorescent lamp of claim 1, wherein the supports have a greater contact area adjacent to the second substrate than adjacent to the first substrate.

6. The flat type fluorescent lamp of claim 1, wherein the second electrode is formed on the second substrate as a matrix.

7. The flat type fluorescent lamp of claim 1, wherein a space between the first and second substrates includes phosphor gas.

8. The flat type fluorescent lamp of claim 1, further comprising a barrier layer on the first electrode.

9. The flat type fluorescent lamp of claim 8, wherein the barrier layer is any one of AlN, BaTiO₃, SiO_X, and SiN_X.

10. The flat type fluorescent lamp of claim 2, wherein the first metal layer and metal protrusions are formed in an integral form with each other to form the first electrode.

11. The flat type fluorescent lamp of claim 2, wherein the second electrode is formed on the second substrate as a matrix ; and

the metal protrusions are formed on portions of the first metal layer that correspond to areas of the second electrode matrix that are directly over the first metal layer.



12. The flat type fluorescent lamp of claim 11, wherein spaces in the matrix of the second metal layer become greater toward the center of the second substrate.

13. The flat type fluorescent lamp of claim 1, wherein the second electrode is formed on the second substrate as a matrix ; and

spaces in the matrix of the second metal layer become greater toward the center of the second substrate.

14. The flat type fluorescent lamp of claim 13, wherein the supports have a trapezoidal shape.

15. The flat type fluorescent lamp of claim 1, wherein the first and second substrates are flat panels of glass or heat-resistant material.

16. The flat type fluorescent lamp of claim 1, wherein the first substrate includes a metal or an insulating material.

17. A method for manufacturing a flat type fluorescent lamp comprising the steps of:
forming a first electrode with protrusions at different intervals on a first substrate;
forming a barrier layer over an entire surface of the first substrate including the first electrode;

forming a phosphor layer on a second substrate;
forming a second electrode on the phosphor layer;
selectively forming supports between the first substrate and the second substrate; and
bonding the first substrate to the second substrate.

18. The method of claim 17, wherein the step of forming the first electrode includes the steps of:

forming a first metal layer on the first substrate; and
selectively forming metal protrusions on the first metal layer.

19. The method of claim of 18, wherein the metal protrusions are formed by screen printing or photolithography.

20. The method of claim 17, further comprising the steps of:
injecting a phosphor gas in a space in between the first and second substrates; and
attaching a flexible printed circuit to the first and second substrates connected to the first and second electrode; and
soldering the flexible printed circuit to a wire of a connector assembly.